REMARKS

Review and reconsideration of the final Office Action dated October 19, 2006 (hereinafter "Office Action"), is respectfully requested. In the Office Action, claims 14, 16-21 & 23, were rejected. By this Amendment, claims 18 and 23 are amended and claims 24-36 are added. No new matter is presented.

In the Advisory Action dated January 31, 2007, the Examiner refused to enter new claim 24. Along with this Amendment, Applicants file an RCE so that the Examiner will consider the arguments in light of the subject matter of the amended claims.

Claim Amendments

Support for new claim 27 can be found throughout the Specification including, p. 2, ln. 22 – 32 & Table 4. Support for amended claim 18 and new claim 33 can be found throughout the Specification, including Table 4. Accordingly, the present amendment introduces no new matter.

Claim Rejections under 35 U.S.C. §103

Claims 14, 16-20 & 23

The Examiner rejected claims 14, 16-20 & 23 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,578,312 issued to Iliff *et al.* (hereinafter "Iliff") in view of U.S. Patent Application Publication 2002/0013234 filed by Severns *et al.* (hereinafter "Severns").

Prior to addressing the cited art, Applicants wish to review several novel aspects of the claimed invention. The claimed invention is drawn to a cleaning system comprising liquid CO_2 and a fragrance system comprising fragrance ingredients having a relative fabric affinity value of at least 4. A significant number of known fragrance ingredients exist for use in conventional aqueous cleaning systems. It is know that, in order to be useful in a cleaning system, once dispersed within the carrier fluid the fragrance system must have an affinity to the fabric being

washed. Whether a fragrance ingredient has an affinity to a fabric depends in large part on the particular cleaning fluid carrier employed. Those of ordinary skill in the art have had difficulty identifying fragrance systems with a high affinity to fabrics when the cleaning fluid is *liquid* CO_2. The present invention provides such a cleaning system that includes a fragrance system with a high fabric affinity in a liquid-CO_2-based cleaning system.

Case law imposes three requirements for combining multiple references in order to make a 35 U.S.C. § 103(a) rejection. First there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the references must teach or suggest all the claim limitations recited in the rejected claim. The present arguments focus on independent claim 23.

Iliff is cited for teaching supercritical CO_2 as a dry cleaning fluid, and for teaching a downstream container for scenting. The Examiner concedes that Iliff does not teach the specific fragrance ingredients, the specific fragrance system, or the proportions recited in the present claims. Severns is cited for teaching perfume containing fabric care compositions. The Examiner considers that it would be obvious to use the fragrance system of Severns in the supercritical CO_2 cleaning composition of Iliff.

One major problem addressed by the present invention is that of identifying fragrance ingredients that possess an affinity for fabrics when the fragrance ingredients are part of a liquid-CO_2-based cleaning system. A person of ordinary skill in the art will recognize that many fragrances that are suitable in aqueous cleaning systems, or even supercritical-CO_2-based cleaning systems, may not exhibit sufficient affinity to fabrics when applied as part of a liquid-CO_2-based cleaning system. As a novel solution to this problem, the present invention identifies a new criterion, a relative fabric affinity value of 4 or greater, for identifying fragrance ingredients that may be used as part of a fragrance system tailor-made for liquid-CO_2-based cleaning systems.

Severns clearly states that the Severns fragrance ingredients are designed for "an essential lipophilic fluid [that] ***is not a compressible gas such as carbon dioxide***," ***see Severns***, paragraph [0077]. A person of ordinary skill in the art, recognizing that fabric affinity is significantly impacted by the carrier fluid, would unquestionably understand this statement and the accompanying discussion as teaching away from using the Severns fragrance ingredients with any CO_2-based cleaning system, such as the one disclosed in Iliff. It is well known that it is particularly difficult to identify fragrance ingredients with a high fabric affinity in a liquid-CO_2-based cleaning system. Thus, the Severns disclosure teaches even more strongly against using the Severns fragrance ingredients in a liquid-CO_2-based cleaning system such as the claimed invention. It is also noteworthy that while Severns enumerates numerous fragrance ingredients, Severns does not disclose or suggest using essential oils of vegetative matter.

Iliff deals with a CO_2-based cleaning system that may include scenting, preferably vegetative matter containing essential oils, such as flower petals, herbs, bark and leaves, *see Iliff*, col. 6, ln. 55-63. Iliff does not specifically address the reason for limiting scenting to essential oils. However, a person of ordinary skill in the art, who understands the interaction of cleaning fluid on fabric affinity of fragrance ingredients would interpret this as teaching away from fragrance ingredients that are not from vegetative matter containing essential oils, such as the fragrance ingredients from Severns.

Severns expressly teaches away from using the Severns fragrance ingredients in a CO_2-based cleaning system, such as Iliff. The Severns fragrance ingredients do not include essential oils from vegetative matter. Iliff discloses a CO_2-based cleaning system that may include fragrances from vegetative matter containing essential oils, but teaches away from other categories of fragrance ingredients, such as the Severns fragrance ingredients. Clearly, these references teach away from one another because Severns teaches away from using the Severns fragrance compounds in CO_2-based cleaning solutions, such as used in Iliff, and Iliff discloses a CO_2-based cleaning system using different fragrance compounds than Severns. Accordingly,

there would be no motivation to combine the cited references as suggested by the Examiner to create the claimed invention.

A person of ordinary skill in the art will recognize that the affinity of a fragrance compound to a fabric is dependent on the cleaning fluid. Since both references specifically exclude any combination that would lead to the claimed invention, a person of ordinary skill would understand that this exclusion was made because Severns and Iliff did not believe the claimed combination would work. Accordingly, there is no reasonable expectation of success for combining these references to obtain the claimed invention. Thus, Applicants assert that claim 23 and all claims dependent thereon are drawn to allowable subject matter.

The Examiner also rejected claims 14, 16-21 & 23 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,313,079 issued to Murphy *et al.* (hereinafter "Murphy"), U.S. Patent No. 5,858,022 issued to Romack *et al.* (hereinafter "Romack"), U.S. Patent No. 6,605,580 issued to Bijl *et al.* (hereinafter "Bijl"), or U.S. Patent No. 5,784,905 issued to Townsend *et al.* (hereinafter "Townsend"), all in view of Severns. As indicated by the Examiner's description of these references, none of the references discloses a combination of liquid CO_2 and any of the fragrances of Claim 23. Thus, a combination of these documents would not lead a person of ordinary skill in the art to the claimed invention, which incorporates fragrance ingredients that impart a long lasting scent to textiles cleaned using the claimed liquid CO_2-based cleaning system. As described above, a major obstacle overcome by the claimed invention is a method of identifying fragrance ingredients useful in liquid-CO_2-based cleaning systems, **a problem Severns explicitly avoids** by expresaly stating that the Severns fragrance system is not for use with carbon dioxide, *see Severns*, paragraph [0077]. Thus, there would be no motivation to combine Severns with these references.

In addition, the present invention is novel because the cited references fail to recognize that a substantive odor may be imparted onto textiles cleaned using the claimed liquid CO_2 cleaning system where **the fragrance ingredients have a relative fabric affinity value (y) of at**

least 4.

The relative fabric affinity criterion is critical to the claimed invention, as shown in the experimentation set forth in the specification (see pages 11 - 23 of the specification). Specifically, on page 15, lines 8 – 15, there is an indication that a fragrance ingredients fraction of at least 60 % with a fabric affinity value of at least 4 **produces a substantive odor on the garment or fabric treated.** Such high substantivity cannot be purposefully achieved with a CO_2-based cleaning system using the method disclosed by the Severns reference.

For at least the above reasons, applicants believe that claim 23 and all claims dependent thereon are drawn to allowable subject matter.

New Claim 24

New claim 24 is drawn to a cleaning system substantially similar to claim 23, except that several of the high relative fabric affinity value fragrance ingredients listed in claim 23 have been eliminated. The list of high relative fabric affinity value fragrance ingredients in new claim 24 consists of:

> benzaldehyde, methylbenzoate, 4,7-methano-3a,4,5,6,7,7a-hexahydro-5 (or 6)-indenyl-acetate, terpinolene, eucalyptol, benzylacetate, cis- and trans-3,7,-dimethyl-2,6-octadienal, tricyclodecenyl isobutyrate, isobornylacetate, ethylene dodecanedioate, di-methylacetate , 2-tert-butylcyclohexylacetate, cyclohexylmethylcarbinolcrotonate, trans-2 decenal, 2-methyl-3-(4-isopropylphenyl)propanal, iso-alpha methyl ionone, 9-hexadecen-16-olide, 5-phenyl-3-methyl-2-pentenonitrile, adehyde C14, maltol, 3a,6,6,9a-tetramethyldodecahydronaphtho[2,1-b]furan, cedryl methyl ether, terpineol alpha, 4-(4-hydroxy-4-methylpentyl)-3-cyclohexene, 2,6-dimethyl-2-heptanol, 2-ethyl-4-(2,3,3-trimethyl-3-cyclopenten-1-yl)-2-buten-1-ol, Mandaril, profarnesol, methylanthronilate, hexahydroirnidem, benzylcinnamate, Jasmol, hydroxycitronellol, and (2E,7R,11R)-3,7,11,15-tetramethyl-2-hexadecen-1-ol.

As part of the 35 U.S.C. § 103 rejection imposed by the Examiner, the Examiner noted that U.S. Patent Application Publication 2002/0013234 filed by Severns *et al.* (hereinafter

"Severns") discloses benzyl salicylate, ethyl vanillin, eugenol, isoeugenol, methyl-n-methyl anthranilate and hydrocitronellal. New claim 24 does not contain any fragrance ingredients listed in the Severns disclosure, or any of the other cited references.

Focusing on the aspects of Severns that are relevant to this Amendment, Severns discloses a fabric care composition containing a perfume composition with:

(1) enduring perfume ingredients,

(2) low odor detection threshold perfume ingredients, or

(3) both, *see Severns*, paragraph [0094].

The Severns disclosure includes an enumerated list of *low odor detection threshold perfume ingredients*, *see Severns*, paragraph [0103], without any instruction for identifying additional low odor detection threshold perfume ingredients. Severns also teaches that *enduring perfume ingredients* have a boiling point of about 240°C or higher and preferably about 250°C or higher, at standard pressure, i.e. 1 atmosphere, *see Severns*, paragraph [0096]. Thus, Severns does not disclose or suggest any perfume ingredient for any cleaning system, with or without CO_2, if the perfume ingredient is not enumerated by Severns in paragraph [0103] and has a boiling point less than 240°C.

The list of fragrance ingredients in claim 24 is limited to those fragrance ingredients that were not mentioned by Severns, thus they cannot be low odor detection threshold perfume ingredients. A sampling of boiling points for fragrance ingredients in claim 24 indicates that they were likely left off of Severns' list of *enduring perfume ingredients* because they do not meet the Severns' boiling point test. The table below shows the boiling points for several of the compounds from claim 24.

Fragrance Ingredient	Boiling Point
benzaldehyde	178°C
methylbenzoate	200°C
terpinolene	185°C

eucalyptol	176°C
benzylacetate	214°C
isobornylacetate	215°C

The claim 24 compounds are not enumerated low odor detection threshold perfume agents and cannot be identified as enduring perfume ingredients using the Severns' boiling point criterion. Clearly, the compounds from claim 24 are neither disclosed nor suggested by Severns. Accordingly, Applicants believe that claim 24 is drawn to allowable subject matter.

Conclusion

The Commissioner is hereby authorized to charge the $120 fee for a one month extension of time and the $50 fee for one additional dependent claim to Deposit Account No. 50-0951. No additional fees are currently believed due; however, the Commissioner is hereby authorized to charge any deficiency or credit any surplus to Deposit Account No. 50-0951.

Favorable consideration and early issuance of the Notice of Allowance are respectfully requested. The Examiner is respectfully requested to contact the undersigned at the indicated telephone number to arrange a telephone interview.

Respectfully submitted,

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Date: February 20, 2007

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